



# PathForward Project

Procurement & Materiel  
University of California /DOE  
Contract W-7405-ENG-48

December 18, 2000

Company Name  
Attention: Representative Name  
Address  
City, State & Zip

Subject: **Request For Proposals (RFP) Number B512013**  
**Proposal Due January 22, 2001**

Lawrence Livermore National Laboratory, Los Alamos National Laboratory and Sandia National Laboratories (hereinafter called the "Tri-Lab(s)"), in support of the U.S. Department of Energy, jointly request a proposal to fund the development of scalable visualization technologies that can be integrated with current and upcoming compute platforms and that can lead to commercial products for future use in the Accelerated Strategic Computing Initiative (ASCI) Visual Interactive Environment for Weapons Simulation (VIEWS) in accordance with this RFP and the enclosed sample Subcontract.

The Board of Regents of the University of California (hereinafter called the "University") manages the Lawrence Livermore National Laboratory and conducts business under Laboratory Procurement Policies and Procedures consistent with the Prime Contract between the University and the United States Government represented by the Department of Energy. LLNL will be the prime contact for solicitation of proposals and for any resulting subcontracts. The University reserves the right to reject any and all proposals, to waive any minor irregularities in any proposal, and to cancel this RFP at any time prior to award without cost to the University. This RFP does not include provisions for the direct reimbursement of costs for proposal preparation.

The University Procurement Representative is Kelly Miller and may be reached by telephone at (925) 422-9062, by fax at (925) 423-8019 or by e-mail at miller66@llnl.gov.

## FUNDING

Based on the proposals received, the Tri-Labs may fund more than one subcontract over several years. The Tri-Labs anticipate that funding of \$13 Million will be available to perform all work associated with this RFP. The value of individual subcontract awards may vary from approximately \$1 Million to several million

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(DM-504; 11/27/00)

depending upon the scopes of work proposed by the Offerors. Funding in the amount of \$3 Million has been appropriated and authorized for all work in the current fiscal year.

### **NAICS CODES AND SIZE STANDARDS**

Due to the broad range of possible solutions which may be proposed in response to this solicitation, there are several possible North American Industry Classification System (NAICS) Codes under which an Offeror could classify itself for purposes of determining its business size. The table below lists those which the Tri-Labs feel may be the most likely candidates for selection by an Offeror. Offerors are not limited to selecting from this list but each Offeror must identify, as part of its proposal, the NAICS Code used.

<b>NAICS Code</b>	<b>Description</b>	<b>Size Standard</b>
334111	Electronic Computer Manufacturing	1,000 Employees
334119	Other Computer Peripheral Equipment Manufacturing	1,000 Employees
541511	Custom Computer Programming Services	\$18.0 M
541512	Computer System Design Services	\$18.0 M
541330	Engineering Services	\$4.0 M
541710	Research and Development in the Physical, Engineering and Life Sciences (See note below)	500 Employees

Note: For research and development subcontracts requiring the delivery of a manufactured product, the appropriate size standard is that of the manufacturing industry for the product.

The small business size standard for a concern which submits an offer in its own name, but which proposes to furnish an item which it did not itself manufacture, is a number-of-employees size standard of 500 employees. Annual receipts are based on the average annual gross revenue for the past three fiscal years. Refer to Subpart 19.1 - Size Standards of the Federal Acquisition Regulation (FAR) for information on calculating your annual average gross revenue.

### **PROPOSAL CONTENTS**

This request is for a proposal pertaining to the research, development, and engineering of technologies that have the promise to address ASCI's needs with respect to scalable visualization. The Tri-Labs are interested in proposals addressing any and all technologies, regardless of architecture, that are capable of satisfying the program's needs and that contribute to scalable visualization such as rendering, data management, and system infrastructure (file systems, compositing networks, data delivery, etc.). We are also interested in seeing proposals that address all aspects of scalable visualization with a complete system. We would prefer not to bias Offerors toward any particular approach, however the presented requirements are framed in the nomenclature of currently available system architectures (e.g. polygon counts, pixel fill rates, etc). Nevertheless, proposals for non-standard hardware and software rendering architectures and systems capable of rendering directly from alternative data representations are welcome. Proposals for rendering data management and system infrastructure (compositing networks, data delivery, etc.) are encouraged.

The proposal should include a Statement of Work (including visualization architecture and systems descriptions), a discussion of Offeror Attributes relevant to the accurate assessment of proposal risks/viability and a Milestone Schedule that includes pricing information.

### **Scope of Work**

The Offeror's proposal should address specific R&D or engineering efforts that will lead to scalable visualization technologies or a scalable visualization system. The proposal shall address the requirements described by the attached Statement of Work. It must include a statement of work that describes a proposed scalable visualization architecture and how the architecture satisfies the desired performance features described in the Statement of Work. The proposal shall include a detailed technical description of the technology R&D or other engineering effort(s) offered. Some discussion of how the Offeror's efforts will realize, or aid in the realization of, such a scalable visualization architecture should be included.

It is understood that not all Offerors are in a position to develop a complete visualization system. Therefore, proposals that cover some portion of the end-to-end visualization and rendering problem will be considered, provided they include some discussion of the nature and implications for the remainder of the end-to-end architecture.

An Offeror is not solely limited to discussion of the desired performance features identified by the Tri-Labs in the enclosed Statement of Work. An Offeror may propose solutions as it sees fit. The Offeror is free to propose features other than those listed if the Offeror believes they may be of value to the Tri-Labs. Appropriate consideration will be given to them in the evaluation process. In all cases, the Tri-Labs will assess the value of each proposal as submitted.

In addition to the above the proposal should contain these items.

- R&D or engineering plans for the proposed effort
- Timeline for product availability resulting from the proposed effort
- Estimated cost to DOE for the products resulting from the proposed effort
- Plans for scalability testing of proposed technologies to verify they meet our scalability requirements. This may include a specific request for the DOE labs to support such testing by providing access to DOE equipment and facilities.
- Identification of any proposed use of open standards

### **Offeror Attributes**

An Offeror shall provide a written summary of its qualifications and capabilities for performing the work, including how they would be used to develop the key commercial technologies proposed. Descriptions of facilities, personnel and other available resources are requested as well as a discussion of how they would be used.

The Offeror shall describe projects of similar scope and complexity as this project that the Offeror has completed recently. These may include public and private contracts. Include technical and business contact points by name, title, address, telephone number and, if available, e-mail address. Offerors are encouraged

to include a self-assessment of their performance on these projects including what went well and what did not. Offerors may discuss the latter in the context of a lessons learned scenario.

The Offeror shall provide its D-U-N-S number as part of the proposal. The Offeror shall declare the NAICS Code used to determine its business size as part of the proposal.

### **Price and Schedule**

The proposal shall include a total firm fixed price for the work and a delivery completion schedule. Offeror shall propose a schedule that clearly shows each milestone, its cost and the deliverable. The Tri-Labs require completion by September 30, 2004. Alternate dates may be proposed which may be subject to negotiation prior to award.

Large Businesses interested in retaining patent rights may propose a cost-share pricing structure. The proposal shall include a detailed price summary that clearly shows the funding requirements for the development and engineering activity and the amount to be funded by DOE under a resulting subcontract. Offeror shall discuss how it intends to share costs in order to leverage intellectual property rights discussed under "OTHER PROPOSAL REQUIREMENTS".

## **TRI-LAB EVALUATION OF PROPOSALS**

### **Evaluation Factors**

The Tri-Labs shall consider the quality of the Offeror's response in addressing desired performance features, Offeror attributes, and price in evaluating proposals. The Tri-Labs will evaluate the balance between a proposal's relative value and the expected results embodied in the proposal. The Tri-Labs' assessment of each proposal will form the basis for selection using the following general criteria.

#### **Feasibility**

- The likelihood that the approach will work as claimed
- The extent to which an Offeror's design and manufacturing approaches represent feasible solutions to the requirements of the Statement of Work
- The ready availability of the component(s) proposed by an Offeror
- The completeness, realism and likelihood of the primary obstacles to proposed approach (most significant technical risks, likely failures) as noted by each Offeror

#### **Applicability**

- The extent to which the system or technology is modular, extensible, and scalable
- Short- and long-term upgrade paths and support (e.g., the degree to which commercial off-the-shelf components are utilized in the proposed technology)
- The stability and dependability of the system configuration and intend to assess the redundancy of data access, rendering engines, and graphical procedures as they contribute to fault-tolerant operation
- Any proposed use of open standards

- Any proposed technology's ability to be seamlessly integrated into the upcoming computational environments

#### **Capability**

- The relevance and adequacy of the Offeror's past experience on similar projects
- The current roadmap status, maturity and scope of the Offeror's existing and proposed products
- The current level of existing technology development insofar as it will be used as part of the final system configuration

#### **Affordability**

- The proposed price in relation to the approach the Offeror intends to employ
- The reasonableness of the total price, including Offeror's contribution, in terms of the Tri-Labs' budget and competitive pricing relative to other proposals

#### **Marketability**

- The target pricing of the technologies being developed under these proposals so that the feasibility of future purchases of the developed technology might be taken into consideration
- The likelihood of future commercialization opportunities, including potential expansion into new markets and/or deeper penetration into existing markets
- Given the discussions on the foregoing topics, the likelihood of maintenance availability and long-term support for the technology or system.
- A major goal of this funding is to accelerate the development of technology. Therefore, the Tri-labs intend to assess how their funding will accelerate or initiate the development of technology. The Offerors must demonstrate that the funding will be used to augment their research and development activities and not simply fund their normal R&D plans.

### **BASIS FOR SELECTION**

The Tri-Labs may select one or more Offerors for award. The Tri-Labs will select those Offerors whose proposals contain the combination of price, desired performance features, and Offeror attributes offering the best overall value(s) to the Tri-Labs. The Tri-Labs will determine the best overall value(s) by comparing differences in performance features and Offeror attributes offered with differences in price, striking the most advantageous balance between expected performance and the overall price to the Tri-Labs. Offerors must, therefore, be persuasive in describing the value of their proposed performance features and Offeror attributes in enhancing the likelihood of successful performance or otherwise best achieving the Tri-Labs' objectives. The Tri-Labs may select the Offeror(s) whose proposal is considered to offer the best overall value compared to proposals with either higher or lower prices. The Tri-Labs' selection may be made on the basis of the initial proposals or the Tri-Labs may elect to negotiate with any or all Offerors.

### **PROPOSAL INSTRUCTIONS**

The Tri-Labs will respond to questions submitted in writing to the Tri-Labs Procurement Representative on or before January 8, 2001. Questions may be submitted by letter, facsimile or e-mail. Answers to questions that are germane to the interpretation of the Tri-Labs' requirements will be issued to all Offerors in writing.

### **Deadline for Submitting Proposals**

Proposals are due to the University Procurement Representative on January 23, 2001, not later than 4:00 PM, Pacific Time. Please provide one original and 10 copies of your proposal. Acceptance of late proposals will be at the sole discretion of the Tri-Labs. Facsimile proposals are not acceptable.

Submittal of a proposal indicates the Offeror's willingness to accept the terms and conditions of the sample Subcontract and its attachments unless specific exceptions are taken. These terms and conditions have been approved by the Department of Energy. Changing them may be time consuming. Failure to accept the terms and conditions may result in significant, unacceptable delays in award of a subcontract that could cause the Tri-Labs to reject your proposal.

The Offeror shall deliver the proposal to one of the following addresses.

#### Address for Commercial Courier

*(Not For Hand Delivery):*

University of California  
Lawrence Livermore National Laboratory  
Attention: Kelly Miller  
Mail Code L-550  
RFP: B512013  
7000 East Avenue  
Livermore, CA 94550

#### Address for Mailing:

University of California  
Lawrence Livermore National Laboratory  
Attention: Kelly Miller  
Mail Code L-550  
RFP: B512013  
P.O. Box 808  
Livermore, CA 94551

### **Proprietary Data**

The Tri-Labs expect to receive proprietary data. If proprietary data is included in a proposal, it must be marked "Proprietary." The Tri-Labs will maintain the proprietary data in confidence, giving it the same degree of care, but no less than a reasonable degree of care, as the Tri-Labs exercise with their own proprietary data to prevent its unauthorized disclosure.

### **OTHER PROPOSAL REQUIREMENTS**

#### **Equal Opportunity**

An award in the amount of \$10 million or more will not be made under this solicitation unless the successful Offeror and each of its known first-tier subcontractors to which it intends to award a subcontract of \$10 million or more are found, on the basis of a compliance review conducted by the responsible government agency, to be able to comply with the provisions of the Equal Opportunity clause in the General Provisions of this solicitation. If the Offeror's proposal is valued at or above \$10 million, the Offeror shall complete and submit with its proposal the attached Pre-award Compliance Certification Form, along with the information stipulated in the form.

#### **Intellectual Property**

It is anticipated that intellectual property rights to new intellectual property developed under PathForward funding may be retained by the company (ies) performing the development, rather than by the Government,

provided that the appropriate cost-sharing conditions exist and documentation is filed supporting approval of a waiver by DOE. See the following notice.

**NOTICE TO OFFERORS**

DEAR 952.227-84 - RIGHT TO REQUEST PATENT WAIVER (JUNE 1998). Offerors have the right to request a waiver of all or any part of the rights of the United States in inventions conceived or first actually reduced to practice in performance of the [sub]contract that may be awarded as a result of this solicitation, in advance of or within 30 days after the effective date of [sub]contracting. Even where such advance waiver is not requested or the request is denied, the [sub]contractor will have a continuing right under the [sub]contract to request a waiver of the rights of the United States in identified inventions, i.e., individual inventions conceived or first actually reduced to practice in performance of the [sub]contract. Domestic small businesses and domestic nonprofit organizations normally will receive the patent rights clause at 952.227-11 which permits the [sub]contractor to retain title to such inventions, except under contracts for management or operation of a Government-owned research and development facility or under [sub]contracts involving exceptional circumstances or intelligence activities. Therefore, small businesses and nonprofit organizations normally need not request a waiver. See the patent rights clause in the draft [sub]contract in this solicitation. See also DOE's patent waiver regulations at 10 CFR part 784.

**ENCLOSURES**

The following enclosures are provided and need not be returned with the proposal.

Sample Subcontract with its Incorporated Documents  
Model Small Business Subcontracting Plan

The Offeror shall complete the following enclosures and submit them with the proposal.

Representations and Certifications  
EEO Pre-Award Compliance Certification Form

Sincerely,

Kelly M. Miller  
Contract Administrator Specialist

Enclosures: As Noted